

Amendments to the Claims

Claim 1 (cancelled)

Claim 2 (cancelled)

Claim 3 (currently amended): A method of diagnosing Barrett's esophageal precancerous condition in a patient comprising the steps of:

- a) administering to said patient an appropriate amount of at least one signature carbohydrate selected from the group consisting of sucrose and mannitol, said patient not having ulcerative disease of the gastrointestinal (GI) tract nor bleeding therefrom;
- b) collecting urine voided by said patient during a suitable time period after the administration of said at least one signature carbohydrate;
- c) measuring levels of said at least one signature carbohydrate present in the urine collected in step b); and
- d) comparing the urine levels of said at least one signature carbohydrate in said patient with a control urine sample, wherein an increase in the urine levels of said at least one carbohydrate in said patient is indicative of the Barrett's esophageal condition in said patient; and
- e) confirming the diagnosis of Barrett's esophageal condition in a patient by performing an endoscopic biopsy.

Claim 4 (currently amended): The method of claim 3, wherein said signature carbohydrate is ~~at least one of the group of mannitol and sucrose~~.

Claim 5 (cancelled)

Claim 6 (previously presented): The method of claim 3, wherein said urine is collected over a 24 hour period.

Claim 7 (currently amended): The method of claim 3, further comprising the steps of:

i [[e]]) obtaining a tissue sample from the esophageal mucosa of said patient;

ii [[f]]) examining tight junction (TJ) leakiness of said tissue sample; and

iii [[g]]) comparing the TJ leakiness of said tissue sample from said patient with that from a control tissue sample, wherein an increase in the TJ leakiness of said tissue sample from said patient is indicative of the Barrett's esophageal precancerous condition in said patient.

Claim 8 (currently amended): The method of claim 7, wherein said TJ leakiness is correlated with altered expression levels of ZO-1 ~~a protein~~.

Claim 9 (previously presented): The method of claim 7, wherein said TJ leakiness is correlated with reduced phosphorylation state of occludin.

Claims 10-12 (cancelled)

Claim 13 (new): A method for noninvasive screening of a patient for the presence of Barrett's esophageal precancerous condition comprising the steps of:

a) administering an appropriate amount of sucrose to said patient, said patient not having ulcerative disease of the gastrointestinal (GI) tract nor bleeding therefrom;

b) collecting urine voided by said patient during a suitable time period after the administration of sucrose;

c) measuring levels of sucrose present in the urine collected in step b); and

d) comparing the urine levels of sucrose in said patient with a control urine sample, wherein an increase in the urine

levels of sucrose indicates said patient requires endoscopy to confirm the presence of Barrett's esophageal precancerous condition in said patient.

Claim 14 (new) : The method of claim 13, wherein said urine is collected over a 24 hour period.

Claim 15 (new) : The method of claim 13, further comprising the steps of:

e) obtaining a tissue sample from the esophageal mucosa of said patient;

f) examining tight junction (TJ) leakiness of said tissue sample; and

g) comparing the TJ leakiness of said tissue sample from said patient with that from a control tissue sample, wherein an increase in the TJ leakiness of said tissue sample from said patient is indicative of the Barrett's esophageal condition in said patient.

Claim 16 (new) : The method of claim 16, wherein said TJ leakiness is correlated with altered expression levels of ZO-1.

Claim 17 (new) : The method of claim 16, wherein said TJ leakiness is correlated with reduced phosphorylation state of occludin.